# OSMOGELS: A NEW METHOD FOR STABILIZING WEAK MOLECULAR COMPLEX INTERACTIONS

## REFERENCE NUMBER

E-214-2009

## PRODUCT TYPE

- Research Materials

## KEYWORDS

- Osmogels
- Research Tool
- Electrophoretic Mobility Shift Assay
- Polyacrylamide Gels
- Diagnostic Assays Kits and/or Regeants

## COLLABORATION OPPORTUNITY

This invention is available for licensing and co-development.

## CONTACT

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## DESCRIPTION OF TECHNOLOGY

The *Eunice Kennedy Schriver* National Institute of Child Health and Human Development is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize a new method for stabilizing molecular complexes in polyacrylamide gels.

This invention describes a new method for stabilizing molecular complexes in polyacrylamide gels for analysis by the electrophoretic mobility shift assay. By adding specific osmolytes directly to the gel, investigators have found that weakly interacting molecular complexes can be sufficiently stabilized to allow quantitative analysis of the binding. Experiments with nonspecific labile complexes of two restriction endonucleases, EcoRI and BamHI, show that one of these added solutes is particularly effective at inhibiting complex dissociation, does not interfere with normal gel polymerization, and does not significantly slow normal gel migration. The results also demonstrate that sharp bands can be obtained for non-specific complexes of both enzymes on gels prepared with this solute while only smeared and distorted bands are observed on regular gels prepared without the solute. This method can

be used for protein-protein, DNA-protein, and RNA-protein complexes, and can also be extended to include other techniques for separating complexes from free components using gel chromatography and capillary electrophoresis.

The potential market for gels that allow researchers to detect and quantify weak molecular complex interactions is significant; ranging from molecular biologists searching for novel regulatory DNA-binding proteins and convenient ways to detect protein-protein, or protein-DNA/RNA complexes to crystallographers needing reliable techniques to search for optimal conditions of complex formation. This technology has the potential to significantly impact biomedical research and development across many fields.

Development Status:
Late stage

## POTENTIAL COMMERCIAL APPLICATIONS

Detection of weak molecular complex interactions for research and commercial use

## INVENTOR(S)

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## DEVELOPMENT STAGE

- Clinical

## PATENT STATUS

- **Not Patented:** Research tool--Patent protection will not be prosecuted
- **Foreign Filed:** No foreign patent rights available

## THERAPEUTIC AREA

- Cancer/Neoplasm